IN THE CLAIMS:

1. (Amended) A method of determining the *initial dose* of a *vitamin D compound*[,] for the treatment of secondary hyperparathyroidism and renal osteodystrophy without increasing the incidence of hypercalcemia comprising:

a. measuring a patient *baseline PTH* (bPTH) value,

b. determining [the] a *final dose* of the vitamin D compound, where the final dose is that dose associated with a first stable clinically significant reduction in patient intact parathyroid hormone (PTH) for the vitamin D compound,

c. applying the *baseline PTH* value and *final dose* to regression analysis, and

d. calculating the *initial dose* of the *vitamin D compound* from the regression analysis of step c.

2. (Original) The method of claim 1 wherein the [linear model] regression analysis is a zero intercept linear model.

3. (Original) The method of claim 1 wherein the vitamin D compound is a vitamin D_2 compound.

4. (Original) The method of claim 3 wherein the vitamin D_2 compound is paricalcitol.

5. (AMENDED) The method of claim 4 wherein the initial dose is patient baseline PTH/80 (bPTH/80).

6. (Amended) [The] A method of treating secondary hyperparathyroidism and renal dystrophy using a vitamin D compound without increasing the incidence of hypercalcemia [claim 1 further] comprising

a) measuring a patient baseline PTH value;

b) determining a final dose of the vitamin D compound associated with a first stable clinically significant reduction in patient PTH for the vitamin D compound;

c) applying the baseline PTH and final dose to regression analysis;

d) calculating the initial dose of the vitamin D compound from the regression analysis of step c; and

e) [administration of] administering the initial dose determined in step d to the patient.

7. (Amended) A method of treating elevated intact parathyroid hormone (PTH) in a patient commencing treatment for [ESRD] end stage renal disease, the method comprising:

a. determining the initial dose of a vitamin D compound from a regression analysis based on a patient baseline PTH (bPTH) and a final dose of the vitamin D compound associated with a first stable and clinically significant reduction in patient PTH for the vitamin D compound, and

b. administering the initial dose of the vitamin D compound determined in step a to the patient.

8. (Original) The method of claim 7 wherein the vitamin D compound is paricalcitol.

9. (Original) The method of claim 8 wherein the initial dose is about patient baseline parathyroid hormone/80 (bPTH/80).

10. (Amended) A method of treating a patient [undergoing vitamin D therapy] for end stage renal disease [ESRD] using a vitamin D therapy, [wherein the] comprising administering an initial dose of vitamin D [administered] to the patient wherein the initial dose of vitamin D is about patient baseline parathyroid hormone/80 (bPTH/80) and bPTH is the baseline PTH for the patient.

11. (Amended) A method of treating a patient [undergoing vitamin D therapy] for secondary hyperparathyroidism using a vitamin D therapy, [wherein the] comprising administering an initial dose of vitamin D [administered] to the patient wherein the initial dose of vitamin D is about patient baseline parathyroid hormone/80 (bPTH/80) and bPTH is the baseline PTH for the patient.

12. (Amended) A method of determining the initial dose of a vitamin D compound using a zero-intercept linear regression model [to determine the initial dose of a vitamin D compound].

13. (AMENDED) A method of treating a patient undergoing vitamin D therapy for [ESRD] end stage renal disease wherein a zero-intercept regression model is used to determine the initial dose of the vitamin D compound.

14. (Amended) The method of claim 13, wherein the vitamin D therapy [the vitamin D compound] results in the prevention or treatment of renal osteodystrophy or secondary hyperparathyroidism.

15. (Original) A method of claim 8 wherein the initial dose is at least 1 mcg.

16. (New) The method of claim 13, wherein the vitamin D therapy does not increase the incidence of hypercalcemia.